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ABSTRACT

Degrees of Excellence is a publication that examines the forces behind the rising cost of higher education, and discusses several policy proposals put forward in Minnesota and elsewhere to improve performance and accountability in higher education. Several factors that have converged to strain public higher education budgets in Minnesota include the following: (1) 15% more of the Minnesota's population attends college than the national average; (2) Minnesota's public colleges and universities are numerous and widespread; (3) public institutions have increased spending faster than inflation and faster than increases in state appropriations; and (4) growing state spending for healthcare and elementary and secondary education has further reduced higher education's share of the state budget. Proposals to increase accountability include: (1) funding students rather than institutions; (2) tying funding to performance; (3) establishing a single governing entity for public higher education in Minnesota; (4) consolidating campuses; (5) altering tenure practices; (6) establishing standards for faculty teaching workloads; (7) utilizing technology; and (8) creating tax and savings incentives to help families pay for college. Also discussed in the document are financial aid, tuition costs, state expenditure, enrollment, graduation rates, and funding. (AS)

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Degrees of Excellence

Higher Education in Minnesota

JC990 039

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Degrees of Excellence was prepared by Minnesota Planning staff members Mark Larson, Mitchell Rubinstein, Deborah Pile, Todd Bergstrom and Amy Walter. Information was provided by the Minnesota Department of Finance, the Higher Education Services Office, the Minnesota State Colleges and Universities and the University of Minnesota.

August 1997

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Other reports available from Minnesota Planning relating to higher education are:

- *A Course for the Future: Higher Education and Economic Development*, 1996
- *An Agenda for Reform: Competition, Community, Concentration*, 1995
- *Within Our Means: Tough Choices for Government Spending*, 1995
- *At the Crossroads: Higher Education in Minnesota*, A Report of the Commission on Post-Secondary Education, 1992

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Summary

Minnesota has a strong commitment to higher education. Many see it as the foundation of the state's quality of life and economic growth. Public investment in higher education remains high compared to other states, but is under pressure from many directions. *Degrees of Excellence: Higher Education in Minnesota* examines how the state is investing in its public higher education system and what might be done to improve results.

Minnesota taxpayers are investing $1.1 billion in higher education in 1997 — 12 percent of the state's budget. State appropriations grew 15 percent faster than inflation between 1982 and 1997, and the amount per student grew slightly faster because of a small drop in enrollment.

Minnesota invests more in higher education than other states. In 1995, state appropriations per capita were 10th highest in the nation and 38 percent above the national average. Because a higher percentage of the state's population attend college than in most states, however, the state's appropriations per student are only 6 percent above the national average.

Several factors have converged to strain public higher education budgets in Minnesota. Fifteen percent more of Minnesota's population attend college than the national average. A large network of 40 public colleges and universities located on 57 campuses stretches to all corners of the state. Public institutions have increased spending faster than inflation and faster than increases in state appropriations. Growing state spending for health care and elementary and secondary education has further reduced higher education's share of the state budget.

As a result of these factors and a 1983 state policy intending that tuition revenues cover at least one-third of instructional costs, a greater share of the financial burden for college has shifted from taxpayers to students. After adjusting for inflation, tuition and fees more than doubled in Minnesota from 1982 to 1997 at all types of public colleges and universities except community colleges, where they almost doubled. Tuition and fees also doubled at the state's private colleges and universities.

Throughout the United States the price of attending college rose faster than any other major consumer purchase from 1983 to 1996, as colleges and universities spent more and shifted a larger share of the cost to the student. The average price of a college education grew 182 percent, much faster than even the cost of medical care, and three times the general inflation rate of 57 percent.

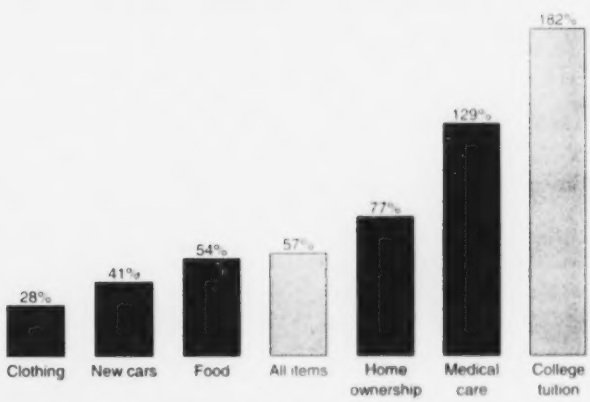
To keep college affordable for low- and moderate-income families, Minnesota created one of the nation's largest need-based financial aid programs, and nearly doubled student financial aid appropriations since 1982, after adjusting for inflation. Fifty-one percent of the state's full-time undergraduate students receive aid, the third highest rate in the country. Research shows that families with incomes under $40,000 have benefited the most. Families in the $40,000 to $60,000 income range have been hit the hardest by increases in the net price of college after financial aid.

Minnesotans have demonstrated the belief that a college education is a sound investment, even at higher prices. Despite a small decline, enrollment rates remain high, and the amount of money borrowed to pay for college increased by nearly 50 percent from 1987 to 1995.

National data confirms that college education is, for most students, a good investment. Young adults with at least some post-high school education earn 15 percent to 20 percent more on average than those who just complete high school, and those who have completed a bachelor's degree or more earn about 50 percent to 90 percent more. Higher education makes a bigger difference in women's earnings than in men's.

Minnesota's policy of making higher education accessible to all types of residents throughout the state has been quite

Price of higher education rose faster than any other U.S. consumer price from 1983 to 1996



Note: Figures in the chart were drawn from the U.S. Consumer Price Index for August 1996 compared to a 1982 - 84 base. The category "All items" represents the general rate of inflation.

Source: U.S. Bureau of Labor Statistics

successful, but more people are initially choosing four-year colleges than there are jobs available in the state for four-year graduates. Nearly 50 percent of students choose a four-year institution, but the state projects that only 25 percent of job openings through 2005 will require a bachelor's degree. Half of those who initially enter four-year colleges drop out before graduation. The state's employers report that they need more workers with one- or two-years of technical training. Shortages of trained, skilled workers are reported in such fields as machine trades, welding, computer support and telecommunications.

With higher prices, taxpayers, policy-makers, students and their families are asking what they get for their investment in higher education. The Legislature has asked the University of Minnesota and the Minnesota State Colleges and Universities to develop better measures of performance to report to the public. Reporting on results has been spotty and inconsistent. *Degrees of Excellence* reviews the limited performance information available in four areas: national rankings, graduation rates, pass rates on professional licensing exams and job placement of college graduates.

In 1996 the Governor's Roundtable on Higher Education and Economic Development, a group of business and civic leaders, challenged the University of Minnesota to become one of the nation's top 10 research universities. While the university ranks in the top 10 in research and technology spending and the number of patents issued, it does not rank in the top tier overall. Its national ranking among doctoral programs has fallen from 12th in the 1960s to 16th in the 1980s to 23rd in the 1990s. Its Twin Cities campus undergraduate graduation rate after six years is the lowest among the Big 10 universities — 50 percent for the class that entered in 1987.

Degrees of Excellence makes no recommendations but discusses several policy proposals that have been put forward in Minnesota and elsewhere to improve performance and provide greater accountability for the state's investment in higher education:

- Funding students rather than institutions to promote competition and efficiency
- Tying funding for colleges and universities to performance
- Establishing a single governing entity for public higher education in Minnesota to help bring coherence to policies and use of resources
- Discontinuing General College at the University of Minnesota Twin Cities campus to strengthen the university's character as a selective institution
- Considering further campus consolidation or realignment to improve efficiency and enable each system to better focus on its unique mission
- Changing tenure practices to balance freedom of inquiry with flexibility for institutions to adjust to new priorities
- Establishing standards for faculty teaching workloads
- Using technology to create a virtual university to provide instruction and other services at times and locations convenient for students
- Creating tax and savings incentives to help families pay for college

The 1997 Minnesota Legislature took action in the latter two areas by endorsing the Minnesota Virtual University and investing substantially in electronic learning technology. The Legislature also created the EdVest savings program and the Gopher State Bond program to help families save for college.

A strong movement to improve performance prevails throughout the public sector. Remaining on the table for higher education are issues such as changing how colleges are financed, reorganizing public higher education for better efficiency and focus, and reforming policies affecting faculty accountability. These avenues and others will be debated as policy-makers and education leaders pursue the goal of excellence.

Expectations Rise

Minnesota's higher education system has moved from an age of expansion into an era in which many policy-makers and citizens are focusing on cost, innovation and performance. Large and growing investments have brought high expectations. Like other major public investments, such as health care and primary and secondary education, higher education faces mounting public pressure for accountability.

Degrees of Excellence: Higher Education in Minnesota examines the forces behind the rising costs of higher education, now a $1.1 billion annual state taxpayer investment. The report highlights policy options that have been proposed to boost performance and improve the value of taxpayer and student investments.

Minnesota has developed an extensive public system of higher education with 40 two- and four-year colleges and universities on 57 campuses. Two entities, the University of Minnesota and the Minnesota State Colleges and Universities (known as MnSCU), oversee the system. The

University of Minnesota is a constitutionally autonomous entity with four campuses governed by the Board of Regents. The Minnesota State Colleges and Universities began in 1995 when a newly formed Board of Trustees assumed responsibility for Minnesota's community colleges, technical colleges and state universities, now 36 in number. Another entity, the Higher Education Services Office, administers one of the nation's largest student financial aid programs. Eligible undergraduate students can obtain state financial aid at any approved private institution among the state's 171 private colleges, universities and career schools.

From the 1950s through the 1970s, Minnesota rapidly expanded its network of public higher education institutions. The goal to build colleges in every region of the state was largely achieved.

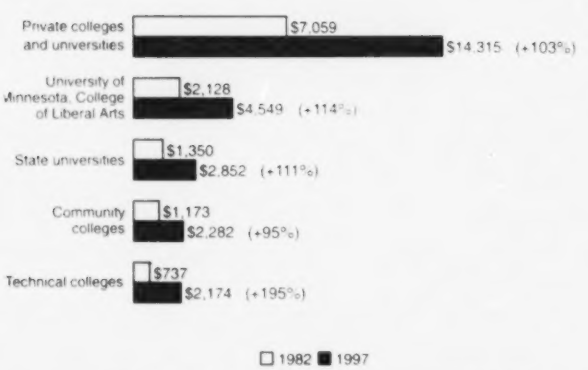
The state's public colleges and universities achieved excellence by many standards. They sustained high levels of enrollment, retrained workers dislocated by economic and social change, and educated an extraordinary proportion of the state's population. Minnesota has the highest percentage of adult population with a four-year college degree of any Midwest state — 25 percent in 1990 — and the 10th highest rate in the nation.

Public higher education is financed with a combination of public investment and the personal investment of consumers, benefiting both the public and the individual student. A "private good" that elevates student incomes and quality of life, public higher education creates an informed populace critical to democracy, spawns new technologies through research, and helps communities solve problems through public service. Minnesota reaps the results of an above-average investment in higher education with an employment growth rate that is among the highest in the Midwest, median incomes well above the nation's, as well as a vital cultural life.

However, serious challenges face the state's higher education system. As a broader cross-section of the population enters college, more students lack basic skills. The costs of operating colleges and universities continue to rise faster than other costs, while competition for state tax dollars intensifies. Students and their families face pressure to assume a greater share of the expense. Employers are concerned about labor shortages in certain technical and professional fields, and are asking colleges to respond to changing labor markets. Video, satellite television, the Internet and other computer technologies offer opportunities to transform the way students learn.

Some observers believe that higher education can thrive by gradually adjusting to change, while others foresee a major crisis. Peter Drucker, a respected management consultant, views higher education as an institution in deep trouble nationally. He asserts that the system's extraordinary cost increases have yielded no apparent improvements. Drucker predicts that big university campuses will be relics within 30 years and residential colleges will not survive. He foresees expansion of less expensive electronic and video methods of teaching.

Tuition more than doubled at most Minnesota colleges and universities between 1982 and 1997



Note: The graph represents change in Minnesota resident tuition and required fees for school years starting in fall 1981 and 1996, adjusted for inflation to 1997 dollars. Years shown are fiscal years.

Source: Minnesota Higher Education Services Office

Prices Escalate

The price of college is rising faster than any other major good or service in the United States measured by the Consumer Price Index. It has greatly outpaced increases in family income.

Tuition and fees for full-time undergraduates more than doubled, adjusting for inflation, at most of Minnesota's public colleges and universities between 1982 and 1997. At technical colleges, they nearly tripled. (Until the late 1970s, technical colleges did not charge tuition.) During the same 15-year period, tuition and fees also doubled at Minnesota's private colleges.

High rates of attendance at public and private institutions indicate that many people remain willing to make the investment. Record use of student loans underscores Minnesotans' belief that college is a good investment in

spite of escalating prices. Strong financial aid programs in Minnesota have cushioned the burden of higher prices for low- and moderate-income families.

The price of tuition and fees for four years at the University of Minnesota is no more than the price of a typical new automobile. Paying the rising price of college may be justified if students receive a substantial return on their investment. National data shows that, compared to people with only a high school diploma, young college graduates on average earn about 50 percent to 90 percent more and those with just some post-secondary education earn 15 percent to 20 percent more. Nonetheless, some students are deterred from attending college because they are ineligible for outright financial aid grants, have not saved or are unwilling to take on debt.

Students pay more as spending outpaces appropriations

Spending by Minnesota's public colleges and universities has risen faster than appropriations from the state. To fill the gap, governing boards have raised tuition rates. As a result, students and their families shouldered 37 percent of instructional costs by 1994, up from 26 percent in 1982.

At the University of Minnesota, 1994 total appropriations for instruction were 1 percent lower than in 1982, adjusted for inflation, while spending for instruction grew 14 percent. To make up the difference, the university increased overall tuition revenues by almost 50 percent.

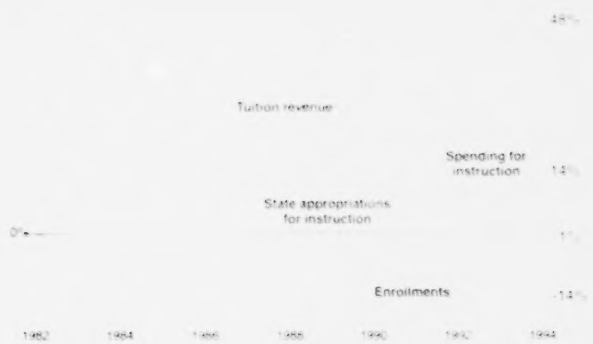
Specifically, undergraduates in the College of Liberal Arts who were Minnesota residents saw their tuition rates jump 72 percent. At the same time, as part of an agreement with the Legislature to improve the quality of education, the university's funding levels were maintained, while undergraduate enrollment was allowed to decline. Hence, on a per-student basis, state appropriations supporting instruction grew 15 percent from 1982 to 1994, adjusting for inflation. But as a result of declining enrollment, rising spending and the shifting of state appropriations to non-instructional purposes, students had to shoulder a greater financial burden.

Spending increases far outstripped enrollment increases at the Minnesota State Colleges and Universities. Enrollment rose 14 percent, but instructional expenditures grew more than twice as much — 35 percent. To bridge the gap, tuition rates for Minnesota residents went up from 63 percent at community colleges to 103 percent at state universities and 158 percent at technical colleges from 1982 to 1994.

State policy has contributed to rising tuition. Legislation enacted in the early 1980s intended tuition revenue to pay for one-third of all instructional costs at public institutions.

The state also has shifted some of the responsibility of paying for new buildings from the state to the college and

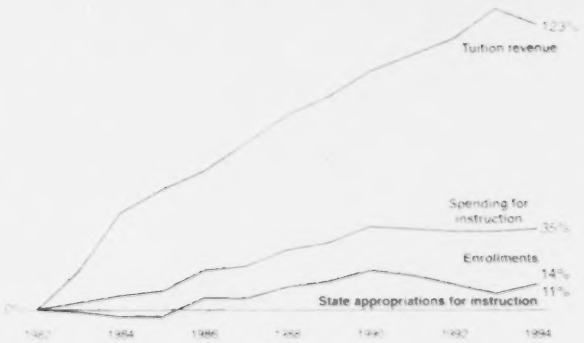
Tuition grew while enrollment fell at the University of Minnesota



Note: The graphic represents full-year equivalent enrollments and uses fiscal year dollars adjusted for inflation. The Legislature estimates but does not line-item appropriations for instruction, so the University of Minnesota and the Minnesota State Colleges and Universities have discretion over what share of state dollars are actually spent for instruction.

Source: Minnesota Department of Finance

Tuition for state colleges and universities doubled to offset spending increases



Note: State universities, community colleges and technical colleges merged to form the Minnesota State Colleges and Universities in 1995. The graphic represents full-year equivalent enrollments and uses fiscal year dollars adjusted for inflation.

Source: Minnesota Department of Finance

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university systems. Since 1983, the state has authorized $1.16 billion for construction projects at public colleges and universities. This includes $636 million for Minnesota State Colleges and Universities campuses and $519 million for University of Minnesota campuses. In 1990, the Legislature began requiring the higher education systems to pay for one-third of the debt service — intended to be the student share — on bonds issued for the construction of new buildings; before that, the systems paid nothing. The state continues to pay all debt service for bonds issued for repairs and renovations. In 1996, the state charged $4.6 million in debt service to the Minnesota State Colleges and Universities and $4.2 million to the University of Minnesota. The systems must make these payments from operating revenues, including tuition, appropriations and other sources.

Minnesota taxpayers invested $1.1 billion in direct state appropriations for higher education in 1997. Adjusted for inflation, this is a 15 percent increase over 1982. Inflation-adjusted appropriations reached an all-time high in 1990 but fell through 1997, along with enrollments. The vast majority of these funds, 89 percent, goes directly to the University of Minnesota and the Minnesota State Colleges and Universities.

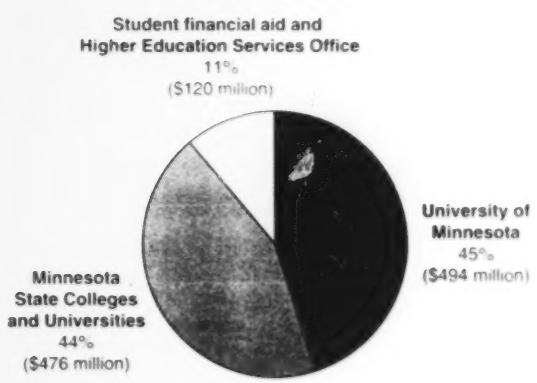
As care for the elderly, medical services, the criminal justice system and primary and secondary education claim expanding shares of state funds, the prospects for substantial growth in state support for higher education may be limited. Excluding payments for debt service, higher education received 12 percent of Minnesota's $9.3 billion general fund appropriations in 1997, down from a peak of more than 15 percent in 1987. In contrast, spending for health care, including nursing homes, grew from less than 8 percent of appropriations in 1980 to about 18 percent in 1997. Competition for state funds likely will intensify as the health care needs of the elderly population increase and policy-makers continue to focus on helping young children be successful in school.

Percentage of spending for direct instruction falls

Funds for teaching students account for less than half of total expenditures at Minnesota's public colleges and universities, and the share has decreased, according to federal data. From 1977 to 1993 the shares expended for scholarships, student services and especially research funded from outside sources have grown significantly at four-year colleges and universities. Some direct instructional funds may have been shifted to such "indirect" instructional costs as administration and student services. Direct instructional costs are the costs to operate academic departments, schools and colleges.

While direct instruction spending became a smaller share of the total higher education pie from 1977 to 1993, it has continued to grow. On a per-student basis, spending for direct instruction increased 62 percent at the University of

About 90% of 1997 state appropriations went to institutions



Note: Data is for fiscal year 1997. Student financial aid is 10%; other Higher Education Services Office activities are 1%.

Source: Minnesota Department of Finance

About two-thirds of 1997 state appropriations went for instruction

University of Minnesota
Instruction 26% ($284 million)
Noninstruction 10% ($112 million)
Specials 9% ($98 million)
Minnesota State Colleges and Universities
Instruction 40% ($429 million)
Noninstruction 4% ($47 million)
Higher Education Services Office
Student financial aid 10% ($113 million)
Administration and other programs 1% ($8 million)

Note: The chart represents the percentages of total state appropriations for the fiscal year. Actual University of Minnesota spending of state dollars for instruction was slightly less than appropriated. Noninstruction includes discretionary research and public service. Student financial aid includes tuition reciprocity with neighboring states. Specials include extension service, health sciences, athletics and state-sponsored research and service activities.

Source: Minnesota Department of Finance

Minnesota Twin Cities campus and 15 percent at other four-year public colleges and universities, adjusting for inflation.

At the University of Minnesota Twin Cities campus, direct instruction dropped from 40 percent to 35 percent of all education and general expenditures, excluding hospitals and dormitories. Spending for administration, an indirect instructional cost, increased from 13 percent to 14 percent; the university attributes this rise to its growing research activities, for which spending grew from 21 percent to 27 percent of total expenditures. Research is a key part of the university's mission and is mostly funded from federal and private sources, not state appropriations for instruction.

The combined direct instructional expenditures at the state universities and the three other campuses of the University of Minnesota dropped from 51 percent to 48 percent of total education and general spending from 1977 to 1993. Spending for student services rose from 5 percent to 9 percent, while spending for administration grew from 17 percent to 19 percent of total expenditures.

Community colleges saw no change in the proportion of expenditures for direct instruction or student services from 1977 to 1993. Spending for administration, however, grew from 16 percent to 23 percent of the total. Minnesota State Colleges and Universities officials suggested several reasons for this increase, including higher early retirement, severance, unemployment and workers' compensation payments. Officials also attribute the spending shift to aggressive efforts to serve more adult and low-income students, who tend to use more counseling and other support services. The sizeable number of small colleges, which have high administrative costs relative to total budgets, also may have added to the bill.

The 1997 Minnesota Legislature directed the Minnesota State Colleges and Universities Board of Trustees to increase the percentage of funds spent on direct instruction and report its progress to the Legislature.

Analyzing the cost of instruction and other activities at colleges and universities is a complicated and imperfect undertaking. Colleges and universities provide multiple products — education, research and public service. Individual employees and facilities at an institution can contribute to more than one product, and available data does not always fully allocate expenditures to each. For example, laboratories are used for both teaching students and conducting research. A further problem is inconsistency in data among schools.

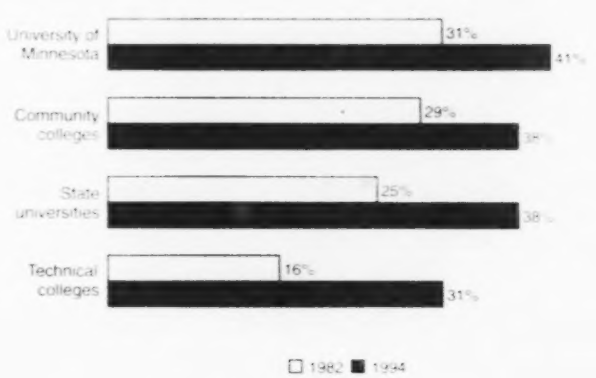
Financial aid offsets rising tuition

Minnesota has cushioned the impact of rising tuition by expanding financial aid for low- and moderate-income students. Minnesota tuition rates are higher than many other states but become more similar after financial aid is subtracted. Fifty-one percent of Minnesota's full-time undergraduate students receive state financial aid, the third highest percentage of any state and twice the national rate. The state ranks fourth in financial aid spending per full-time undergraduate student.

The state appropriated $113 million for financial aid in 1997. Nearly $100 million was allocated to grants, $8 million to part-time jobs for students with financial need, and $5 million to tuition reciprocity payments for Minnesota students attending schools in neighboring states. Between 1982 and 1997, appropriations for state grants, adjusted for inflation, rose 94 percent.

Minnesota residents may receive state grants to attend private or public colleges for undergraduate education. Grants generally are targeted to low-income families, but they also are available to moderate-income families depending on family size, number of children in college and the cost of tuition at the chosen institution. This expands the choice of institutions for students. The Minnesota State Grant program is coordinated with the federal Pell Grant program to provide awards equaling up to 50 percent of the cost of tuition, fees, room and board and incidental expenses. Grants to private college students are capped at an amount comparable to a public institution.

The share of instructional costs paid by tuition and fees grew between 1982 and 1994



Note: The chart represents fiscal year data.
Source: Minnesota Department of Finance

Minnesota is just above the national average in appropriations per student

State	Rank	1995 state and local appropriations for public higher education: Per capita	% of U.S.	Per student	% of U.S.	1994 public students per 1,000 population	% of U.S.
Wyoming	1	$296	199%	$6,574	141%	45.2	142%
New Mexico	2	$239	161%	$5,752	123%	41.5	130%
North Carolina	3	$218	147%	$6,426	138%	33.8	106%
Wisconsin	4	$205	138%	$5,751	123%	35.7	112%
Kansas	5	$192	129%	$4,599	99%	41.6	131%
Utah	6	$189	127%	$4,550	98%	41.8	131%
Iowa	7	$185	125%	$5,578	120%	33.1	104%
Nebraska	8	$185	125%	$4,389	94%	42.1	132%
Alabama	9	$185	124%	$4,347	93%	42.5	134%
Idaho	10	$184	124%	$5,183	111%	35.5	112%
North Dakota	11	$183	123%	$3,881	83%	47	148%
Mississippi	12	$182	123%	$4,835	104%	37.8	119%
Alaska	13	$182	123%	$6,614	142%	27.5	86%
Minnesota	**14**	**$181**	**122%**	**$4,939**	**106%**	**36.7**	**115%**
Arizona	15	$178	120%	$4,532	97%	39.4	124%
California	16	$176	119%	$4,416	95%	40	126%
Oklahoma	17	$170	115%	$4,836	104%	35.1	110%
Hawaii	18	$170	115%	$5,991	128%	28.3	89%
Michigan	19	$166	112%	$4,648	100%	35.8	113%
Texas	20	$165	111%	$4,864	104%	34	107%
Georgia	21	$160	108%	$5,456	117%	29.5	93%
Washington	22	$155	104%	$4,427	95%	35	110%
Illinois	23	$151	102%	$4,979	107%	30.5	96%
Tennessee	24	$147	99%	$4,984	107%	29.6	93%
South Carolina	25	$144	97%	$4,185	90%	34.5	108%
Florida	26	$144	97%	$5,526	119%	26	82%
Delaware	27	$143	96%	$3,809	82%	37.6	118%
Oregon	28	$141	95%	$4,561	98%	31	97%
Arkansas	29	$135	91%	$4,495	96%	30.2	95%
Maryland	30	$134	91%	$4,195	90%	32	101%
New Jersey	31	$132	89%	$5,358	115%	24.6	77%
Maine	32	$130	88%	$5,790	124%	22.5	71%
Missouri	33	$129	87%	$5,206	112%	24.7	78%
Montana	34	$126	85%	$3,372	72%	37.5	118%
Kentucky	35	$123	83%	$4,031	86%	30.7	96%
Indiana	36	$123	83%	$4,092	88%	30	94%
Nevada	37	$121	81%	$5,022	108%	24.1	76%
Virginia	38	$121	81%	$3,641	78%	33.2	104%
New York	39	$120	81%	$4,918	105%	24.4	77%
South Dakota	40	$118	79%	$3,700	79%	31.7	100%
Colorado	41	$115	77%	$3,116	67%	36.9	116%
Ohio	42	$112	76%	$3,644	78%	30.9	97%
Rhode Island	43	$111	74%	$4,278	92%	25.8	81%
Connecticut	44	$105	71%	$5,812	125%	18.1	57%
Pennsylvania	45	$103	69%	$4,259	91%	24.1	76%
West Virginia	46	$100	68%	$2,986	64%	33.8	106%
Louisiana	47	$96	64%	$3,022	65%	31.5	99%
Massachusetts	48	$87	59%	$4,517	97%	19.3	61%
New Hampshire	49	$66	44%	$2,794	60%	23.5	74%
Vermont	50	$48	33%	$1,826	39%	26.5	83%
United States		**$148**	**100%**	**$4,662**	**100%**	**31.8**	**100%**

Note: The table includes appropriations for current educational operating expenses and state financial aids for public college students but excludes expenditures for state-sponsored research, agriculture, medical schools and public health services. It counts public college and university full-time equivalent resident and nonresident students. Adjusted to account for state differences in costs of living, percentages of 2-year, 4-year and graduate students, and sizes of colleges.

Source: Research Associates of Washington

Analysis by the Higher Education Services Office shows that for families with incomes below $40,000, the state grant program has reduced the net price of attendance — tuition, fees, room and board and other living expenses, minus grants — and the percentage of family income required to put a student through a public or private college or university.

Low-income families receive the greatest benefit because the amount of a state grant increases as income decreases. Families with annual incomes between $40,000 and $60,000 have the greatest financial burden relative to their income because their students receive the smallest grants. The financial burden generally diminishes as family income rises above $60,000; although their students rarely receive state grants, such families have more disposable income.

Rising tuition and tightening of Pell Grants for single adult students have led to greater use of loans to pay for college. From 1987 to 1995, federal and state loans to Minnesota students increased 49 percent, adjusting for inflation.

High Attendance Stretches State Funds

A greater portion of Minnesota residents attend college than do residents in most other states. A wide array of public and private institutions offer access throughout the state. At the same time, state colleges have reached out to serve individuals with diverse backgrounds, including dislocated workers, welfare recipients and adults returning for new careers or advanced credentials. The result is that 15 percent more of Minnesota's population attends a public college than the national average. Twenty-five percent of Minnesota adults have at least a bachelor's degree, the 10th highest percentage in the nation.

Because of the high rate of attendance, the state's substantial public investment in higher education is spread over more students than in many other states, reducing the amount invested per student. Minnesota's appropriations per capita for public higher education were 22 percent higher than the national average in 1995, placing Minnesota 14th among the states. In contrast, per-student appropriations were only 6 percent above the nation's. High enrollment boosts the qualifications of the state's work force but stretches the tax resources going to higher education.

State has wide array of campuses

As a result of a longtime policy of providing access to higher education throughout the state, Minnesota's tax dollars are also spread over a large number of campuses. Minnesota has 40 colleges and universities located on 57 campuses. This is a decrease from 63 institutions and 65 campuses in the mid-1980s. The reduction included the consolidation of nine community colleges and technical colleges located adjacent to each other or in the same city. One campus, the University of Minnesota in Waseca, was closed in 1992.

The Minnesota State Colleges and Universities operates seven state universities and 29 two-year colleges — eight community colleges, 10 technical colleges, 11 combined community and technical colleges — as well as a tiny university in Akita, Japan. Eleven of Minnesota's two-year campuses enroll 500 or fewer students.

The University of Minnesota has four institutions, ranging from roughly 43,000 full-time equivalent students at the Twin Cities campus to 6,400 at Duluth to less than 2,000 at the Crookston and Morris campuses.

Minnesotans can study at 171 private institutions in the state. They can also attend public institutions in Wisconsin, North Dakota, South Dakota, Manitoba and some colleges in Iowa at reduced tuition rates through reciprocity agreements.

Enrollment remains high

Enrollment in Minnesota's public colleges and universities, measured by headcount, peaked in fall 1990 at 220,000 students and remained relatively high at about 197,000 in fall 1996. Full-year equivalent enrollment, which translates total part-time and full-time enrollments to full-time equivalents for one academic year, also has decreased at public colleges and universities to 164,000 in 1996 from a high of 177,000 in 1991.

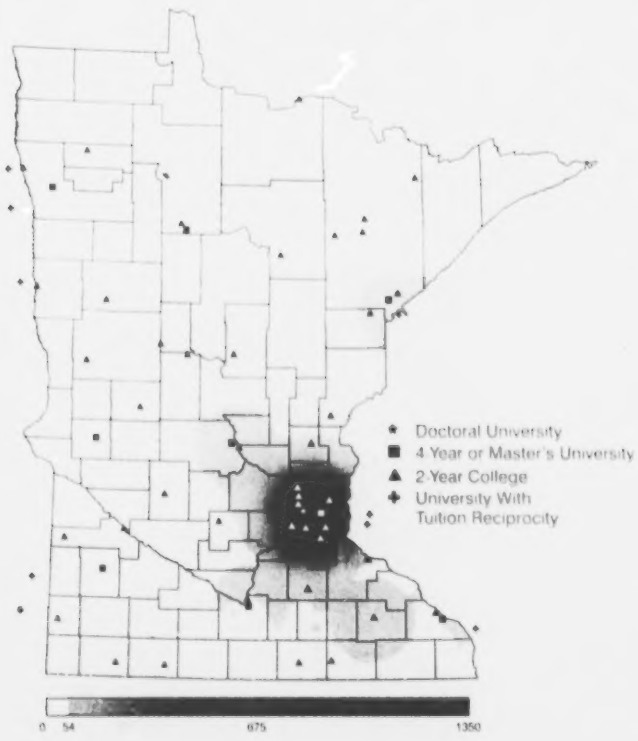
More than 60 percent of Minnesota's young adults pursue post-secondary education. Of the estimated 88 percent of students who finish high school, 71 percent attend a post-secondary institution within one year after graduation. Forty-seven percent of these graduates attend a four-year college or university, and 24 percent attend a community college, technical college or private career school.

During the 1980s, many older adults, especially women, either returned to college or entered for the first time. The percentage of students who were age 25 and older peaked at 33 percent for state universities in fall 1989, 45 percent for community colleges in fall 1991 and nearly 50 percent for technical colleges in fall 1993.

Significant spending on remedial education

One consequence of broad access to higher education is a wider variety of students, some with poor academic preparation. This requires a significant amount of remedial and developmental education in reading, writing, mathematics and English as a second language. New statewide graduation standards for high school students may ease the demand for remedial education, but large

Majority of State's 57 Colleges and Universities Located in Low Population Areas



Note: Based on total population, state's population density per square mile smoothed over a 25-mile radius. Dark shading indicates higher population density.

Source: Minnesota State Colleges and Universities, U.S. Census data compiled by Minnesota Planning

Minnesota public colleges and universities range from 400 to nearly 43,000 students

1996

Doctoral university	
University of Minnesota	
Twin Cities	42,627
Master's university	
University of Minnesota	
Duluth	6,435
Minnesota State Colleges and Universities	
Bemidji State	4,341
Mankato State	11,873
Metropolitan State, St. Paul	2,736
Moorhead State	5,730
St. Cloud State	12,606
Southwest State, Marshall	2,204
Winona State	6,475
Akita, Japan	31
Bachelor's university	
University of Minnesota	
Crookston	1,177
Morris	1,910
Community and technical college (2-year)	
Central Lakes	
Brainerd	1,886
Staples	525
Other	221
Century, White Bear Lake	4,439
Hibbing	1,405
Lake Superior, Duluth	1,906
Laurentian	
Ely	724
Eveleth	413
Virginia	721
Minneapolis	4,563
Minnesota West	
Canby	207
Granite Falls	348
Jackson	500
Pipestone	302
Worthington	626
Other	92
Northland, Thief River Falls	1,180
Ridgewater	
Hutchinson	586
Willmar	2,301
Other	55
Riverland	
Albert Lea	471
Austin	1,439
Rochester	3,297
Community college (2-year)	
Anoka-Ramsey	
Cambridge	664
Coon Rapids	2,695
Fergus Falls	944
Fond du Lac, Cloquet (tribal)	469
Inver Hills, Inver Grove Heights	2,790
Itasca, Grand Rapids	841
Normandale, Bloomington	4,757
North Hennepin, Brooklyn Park	3,237
Rainy River, International Falls	407
Technical college (2-year)	
Alexandria	1,814
Anoka	1,409
Dakota County, Rosemount	1,708
Hennepin	
Brooklyn Park	1,636
Eden Prairie	1,642
Other	205
Northwest	
Bemidji	493
Detroit Lakes	529
East Grand Forks	1,052
Moorhead	1,095
Wadena	479
Other	91
Pine, Pine City	395
Red Wing – Winona	
Red Wing	455
Winona	615
St. Cloud	1,822
St. Paul	2,568
South Central	
Faribault	916
Mankato	1,525

Note: Enrollments are estimated for fiscal year 1996 using full-year equivalents. The "other" category includes students who cannot be attributed to a single campus.

Sources: University of Minnesota and Minnesota State Colleges and Universities

numbers of returning adult students will continue to fuel the need.

Public two-year colleges have an open admissions policy, which means they admit virtually any high school graduate, regardless of preparation. Their mission includes serving students whose educational preparation is marginal. Public four-year universities have admission requirements but are flexible in admitting students.

Direct expenditures for remedial and developmental education at Minnesota's public colleges and universities amounted to $17.8 million in 1995. The Minnesota State Colleges and Universities spent about $16.8 million: technical colleges, $8.9 million; community colleges, $7.4 million; and state universities, $450,000. Remedial and developmental courses accounted for 4 percent of all credits at the Minnesota State Colleges and Universities: 10 percent at community colleges, 3 percent at technical colleges and less than 1 percent at state universities.

The University of Minnesota spent $1.1 million for remedial and developmental instruction in 1995, excluding English as a second language. Remedial math accounted for 94 percent of this total. Fifteen percent of first-year students registered for remedial courses, including 32 percent at Crookston, 16 percent at the Twin Cities, 12 percent at Duluth and 2 percent at Morris. Two-thirds of remedial students at the University of Minnesota Twin Cities campus were in General College.

Students need remedial instruction for a variety of reasons. Some younger students take remedial classes because they avoided college preparatory courses or performed poorly in high school. Lack of courses, students with limited English-speaking skills, inadequate teaching, and lax graduation standards in school districts are other reasons. Some older students need remedial instruction to revive skills or because they dropped out of high school. Remedial course work does not qualify for credit toward graduation, though it does qualify for financial aid.

Performance Mixed, Often Not Measured

With legislative prodding, Minnesota's public higher education systems have recently begun to develop stronger methods to measure results. The boards of the two systems have initiated action. Citizen concern about escalating tuition rates and ongoing requests by higher education officials for major appropriations increases have led policy-makers to demand better information about the performance of Minnesota's colleges and universities.

University's ranking falls in some areas

The Governor's Roundtable on Economic Development and Higher Education in 1996 put forward a goal that "the University of Minnesota should strive to be recognized as one of the nation's top 10 research universities." The most recent national rankings show that the University of Minnesota Twin Cities campus is strong in many individual programs but generally is not in the nation's top 10.

While imperfect, available national rankings of colleges and universities are important indicators of excellence, especially for major research universities. A high national rank can attract faculty, students, grant money and other support. Available rankings focus on either doctoral, professional or undergraduate programs; there are no overall rankings.

In doctoral programs, the university's standing has fallen. From the 1920s through the 1960s, the university was ranked among the top 12 doctoral universities in the nation, though ranking methods changed from decade to decade. The university slipped to 16th in 1982, then dropped to 23rd among 274 research universities in 1993. The latter rankings, published by *Change* magazine, were based on the views of 10,000 faculty members nationwide, polled by the National Research Council. Interpreting the council's data with alternative methods, officials at the University of Minnesota rank their institution 17th or 20th in the nation.

Of 41 doctoral disciplines covered in the *Change* rankings, six programs at the University of Minnesota Twin Cities campus received the highest possible rating of "distinguished": chemical engineering, mechanical engineering, economics, geography, mathematics and psychology. Another 23 were rated "strong," the second level on a five-level scale. Few ranked at the bottom.

Professional school rankings from 1996 also show the University of Minnesota as strong and improving but shy of the top 10 in key areas. In the last 10 years, engineering climbed from 23rd to 12th of about 200 programs nationally and business moved from 40th to 32nd among 290 schools. The Law School ranked 21st and has

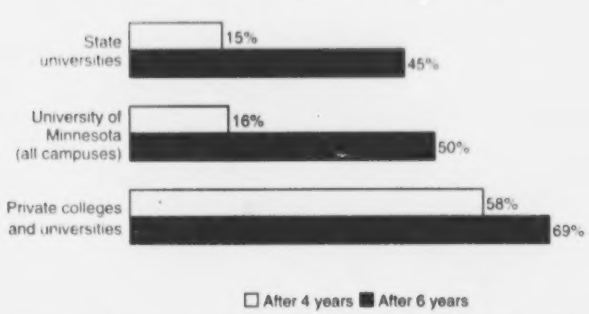
consistently been in the top 25. The Medical School is not in the top 25 of 125 schools ranked. Eight professional programs at the university were ranked in the top 10 in 1996: counseling, first; chemical engineering, management information systems and vocational-technical education, second; pharmacy, third; public health, sixth; and education and dentistry, seventh. The rankings are done by *U.S. News and World Report* using reputational surveys for all fields and, for major fields, formulas rating such factors as student selectivity and placement success.

U.S. News also ranks undergraduate programs, but the usefulness of its ranking of undergraduate programs is often questioned. Private universities hold all of the top 20 national spots in the magazine's undergraduate rankings, while most public universities have fallen in rank over the last five years. *U.S. News* placed the University of Minnesota Twin Cities campus in the 50-to-100 tier of more than 200 universities across the country.

The university ranks high in research and technology programs, which are vital stimulants to Minnesota's economy. The university was ninth nationally in 1994 in total research and development expenditures for science and engineering. It also ranked ninth in the number of patents received from 1990 to 1994, in company with the Massachusetts Institute of Technology and Stanford University. The University of Minnesota is negotiating an increasing number of licenses with industry for commercial applications of technologies; 262 licenses were in effect worldwide in 1996, 86 of them with Minnesota companies.

About half of students entering Minnesota public colleges graduate in six years

Graduation rates for class entering fall 1987



Note: The chart represents data for new, full-time freshmen. University of Minnesota data includes General College, graduation rates excluding General College are 16 percent after 4 years and 52 percent after 6 years.

Sources: Minnesota Private College Council, Minnesota State Colleges and Universities, University of Minnesota

Graduation rates could improve

Graduation rates are widely used as a bottom-line measure of performance, though they have many limitations. The 1995 Legislature established improvement in graduation rates as one performance measure by which higher education systems could gain incentive funding.

Graduation rates for the University of Minnesota Twin Cities campus are the lowest among the Big 10 universities by a significant margin, whether measured after four, five or six years from when new full-time freshmen enter. The graduation rate after six years for students who entered in the fall of 1987 was 50 percent at the university, compared to 57 percent at Ohio State University, the next lowest; 64 percent at the University of Iowa; and 72 percent at the University of Wisconsin-Madison.

Six-year graduation rates for students who entered in the fall of 1987 were lower at other public universities within Minnesota and varied considerably. The University of Minnesota in Morris had the highest rate, 57 percent, while Bemidji State University had the lowest, 35 percent. The six-year graduation rate for all state universities combined was 45 percent. The rate at every University of Minnesota campus improved from the early 1980s to the early 1990s, with Morris boasting the largest gain.

Minnesota's private colleges and universities have considerably higher graduation rates than public colleges, in part a result of their more selective admissions policies.

Among students who entered Minnesota's two-year community colleges in fall 1989, the combined graduation and transfer rate after three years was 32 percent: 19 percent received a degree or certificate, and 13 percent transferred to four-year institutions. Community colleges offer a curriculum for transfer to four-year institutions as well as programs leading to occupational certificates and two-year degrees. Low completion rates compared to four-year institutions reflect the community colleges' stated mission, part of which is serving students with marginal preparation for post-secondary education and providing continuing education for students not seeking a degree.

A variety of factors influence graduation rates. Some reasons cited by higher education officials that students do not graduate from the institution they first entered include:

- High tuition and expenses
- Need to work and attend school part-time
- Family's failure to save money for college

- Students finding employment in a strong job market before completing the degree
- Students choosing to prolong schooling
- Colleges failing to provide access to required courses
- Students changing majors
- Students becoming disappointed with the program or campus quality of life
- Poor preparation for college studies
- Poor grades
- Inadequate academic advising and support services
- Lack of incentives for timely completion

Reporting of graduation rates has been inconsistent. Nationally uniform data will become available in 1997 from the U.S. Department of Education. These reports, however, will tell only part of the story. They will not report graduation rates of students who transfer into an institution or who enter as part-time students. Many nontraditional students who work their way slowly through college are in the latter group.

Pass rates data is limited

Pass rates on licensing examinations for students from professional programs and certain vocational programs can be a useful measure of a program's quality. These examinations are required for practice in occupations such as law, medicine, nursing and cosmetology. Reporting of pass rates, however, is not centralized and is inconsistent. At the University of Minnesota, individual academic units decide whether to report such data, and its availability to students and the public varies. The university's professional schools commonly collect the information and make it available to students. They report high pass rates, typically 95 percent or above. For example, the Law School reports pass rates of 97 percent on the Minnesota Bar Exam, a rate exceeded by only one other law school in the country. For the Minnesota State Colleges and Universities, individual institutions collect data on pass rates, but the system's office has not routinely collected or reported the information.

Plans are underway for systematic reporting of pass rates for fields that have exams by the University of Minnesota as part of its performance report. The usefulness of such data may be limited without uniform data from the Minnesota State Colleges and Universities, Minnesota's private colleges and universities and other institutions throughout the nation.

Inconsistent data clouds placement picture

As in other states, information on job placement of Minnesota graduates is incomplete. Before merging with the Minnesota State Colleges and Universities, the technical colleges tracked their placement rates; in 1994, they reported that 88 percent of graduates who were available for work obtained jobs related to their fields of study. Community colleges have statewide follow-up data on their graduates, by field. Placement rates in related employment among 1994 community college graduates entering the labor force were 95 percent in registered nursing, 69 percent in accounting and 54 percent in law enforcement and police science.

Follow-up data on graduates from state universities and departments within the University of Minnesota varies; it has not been uniform and comprehensive. Southwest State University has one of the state's better data collection systems, and compiled reports from about 70 percent of 1995 graduates. Of those in the labor force, 76 percent had jobs related to their field of study, 20 percent were in unrelated jobs and 4 percent were unemployed.

Job placement rates indicate the quality of a program and its relevance to the labor market. Graduate follow-up information depends on the voluntary cooperation of graduates and can be quite costly to obtain. Several states have radically reduced the cost of collecting information by using electronic records kept by state unemployment insurance agencies across the country, but they receive less information than is obtained from traditional student surveys.

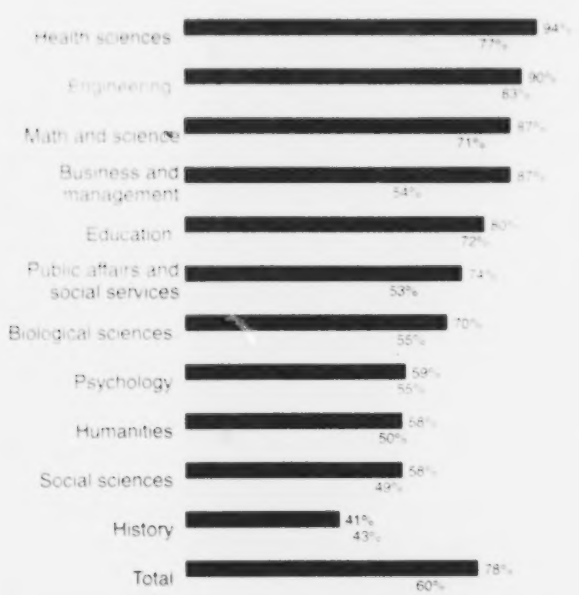
Legislation enacted in 1995 directs the Minnesota State Colleges and Universities and requests the University of Minnesota to provide their students with information on job placement of graduates and on projected demand for graduates in various fields of study. However, the law does not explicitly require uniform reporting, reporting by individual colleges or reporting by private institutions. Information that is uniform and includes all colleges would be the most useful. The Minnesota State Colleges and Universities is developing a single set of standards for collecting and reporting placement rates for its graduates.

Shortages Plague Technical Fields

Minnesota employers and business leaders are citing shortages of skilled technicians in such fields as welding, telecommunications, graphic arts, machine trades and computer support, and other occupations that do not require a four-year degree.

Many students entering Minnesota colleges are not initially making choices that accurately reflect the state's job market. Significantly more Minnesotans enter four-year colleges than there are jobs available in the state requiring a four-year degree. Half of all new students do not graduate, in part due to poor academic preparation. It also may reflect signals they get from the job market that there is an excess of college students, or that many good job opportunities do not require a college degree.

U.S. business and science graduates have most success getting jobs in their field



Note: The graph represents U.S. four-year college graduates in 1993 who were working full time one year after graduation.

Source: U.S. Department of Education

About 26 percent of young Minnesotans earn a bachelors degree. Another 36 percent of young Minnesotans attain some post-secondary education short of a four-year degree.

Projections by the Department of Economic Security indicate that 25 percent of job openings in the state through 2005 will require at least a bachelor's degree. Job openings include both new jobs and positions open due to turnover.

The best estimate is that another 26 percent of job openings will require more limited education or training beyond high school, ranging from several weeks to several years at a trade school, technical college, community college or four-year college.

Some students who start at four-year colleges engage in "reverse transfer" to a two-year college to earn an occupational degree or certificate. This data implies that many new high school graduates might make more realistic choices if they entered one- or two-year occupational training programs in the first place, rather than detouring through four-year colleges. Doing so would cost them less in tuition and educational expenses, and they could receive a better return on their investment. They could still attend a four-year institution later in life if their career interests and job opportunities steered them in that direction.

Four-year colleges and the state might also benefit. Graduation rates at four-year institutions could improve if fewer of their entrants had marginal interest in or preparation for a bachelor's degree program. A higher percentage of the remaining entrants likely would have the ability and motivation to graduate. However, lower enrollments would have an impact on the four-year colleges.

The two-year associate's degree may be growing in appeal. Census data from 1990 shows that compared to older age groups, a higher percentage of younger Minnesotans earned an associate's degree and a lower percentage earned a bachelor's degree. Recent data from the Higher Education Services Office also shows the number of two-year degrees increasing faster than the number of four-year degrees. However, part of the increase resulted from technical colleges strengthening associate's degree programs, offering them in fields that formerly offered only a certificate.

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Fields of study roughly match market demands

Nationally, the major fields of study that four-year college students are choosing match up fairly well overall with the labor market, but shortages of graduates persist in such key fields as engineering. Recent national data on four-year college graduates one year after graduation shows considerable variation in employment by field of study. Of graduates who were working full time and not continuing their education, about 78 percent reported having jobs related to their majors. Three-quarters reported having jobs with career potential, but only 60 percent reported that a college degree was necessary to get their jobs. The percentage working in a job related to their major ranged from highs of 94 percent in health professions and 90 percent in engineering to lows of 41 percent in history and 58 percent in humanities.

Comparable data is not available from Minnesota's public colleges and universities. However, the Minnesota Department of Economic Security identified shortages of in-state graduates in computer engineering and physical and occupational therapy, and surpluses in such areas as law and economics.

Some liberal arts graduates may be disappointed by the low employment rate in jobs related to their major, but many choose their field of study for reasons unrelated to direct employment prospects, and many employers want to hire individuals who have a broad liberal arts education.

Many factors shape student choices, including parental and peer pressure, personal interest, availability of information on job opportunities, quality of high school preparation, availability of programs and financial circumstances. Informed guidance and knowledge of employment opportunities are essential for students to make good educational decisions. To provide such information, the Minnesota State Colleges and Universities, the University of Minnesota, private colleges, career schools and state agencies are developing the Minnesota Career and Education Planning System, now renamed Information System for Education and Employment Knowledge. This computerized online database will have information about occupations, including educational requirements, salaries and colleges offering training.

College graduates have big earnings advantage

One reason students start out seeking a four-year college degree is the higher earning potential. In 1994, American men age 25 to 34 with a bachelor's degree or above earned 52 percent more than those with just a high school diploma, while women with the same characteristics earned 87 percent more. Men with just some college education earned 14 percent more than high school graduates and women with some college earned 20 percent more.

Recent evidence indicates a short-term drop in the earnings differential for people with a bachelor's degree, which could increase the appeal of lesser levels of education. Between 1992 and 1994, the earnings gap between college and high school graduates narrowed slightly. Inflation-adjusted earnings of college graduates fell 6 percent to 7 percent, while those of high school graduates remained about the same. Corporate restructuring is a likely reason. However, a sustained surplus of college graduates could also be expected to drive down earnings.

Policy Options Focus on Accountability

In the past decade, proposals have come forward from university boards and state legislatures across the country to measure performance, improve accountability by sharing results with students and the public, and restructure how colleges and universities do business.

Degrees of Excellence discusses numerous policy options that have been explored in Minnesota and in other states: tying funding to student choice or to college performance, streamlining governance, realigning colleges and improving faculty accountability and productivity. Some proposals have been acted upon by the Legislature such as merging three systems into the Minnesota State Colleges and Universities and endorsing the vision of the Minnesota Virtual University. In addition, the Legislature has attempted to cushion rising tuition prices by establishing incentive programs to help families save funds for college.

Put funding in the hands of students

A market-based approach to improve performance gives students a greater share of public funding and institutions less. The assumption is that a public college or university would be driven to improve its product to attract customers, like a business.

In the 1995 report *Agenda for Reform*, former state senator John Brandl and former Minnesota Congressman Vin Weber proposed a dramatic shift in state appropriations for higher education from institutions to students. Under their proposal, similar to one made by the Citizens League, taxpayer subsidies to public colleges and universities would decrease from 90 percent to 30 percent of state higher education appropriations while financial aid to students would increase from 10 percent to 60 percent. The remaining 10 percent of appropriations would go for research and other higher education programs. Financial aid to students would include lifetime learning grants for retraining older adults, as well as need-based grants for traditional college-age students.

In this model, students would control the majority of funds for higher education. Their decisions would determine the flow of money to institutions, private as well as public. In theory, competition for students would occur through price and quality of programs. Colleges and universities able to reduce costs while maintaining or improving quality would hold an advantage.

Base funding on performance

Another approach would fund public colleges and universities based on performance. At least 14 states have adopted some degree of performance funding; others are considering it.

The Minnesota Legislature experimented with performance funding in 1995, effective for only one year. The goal was to hold the state's public colleges and universities accountable for achieving certain priority objectives, such as improving retention of students, improving graduation rates, improving job placement and delivering more courses via telecommunications. "Performance incentive accounts" of $5 million were reserved for both the Minnesota State Colleges and Universities and the University of Minnesota, about 1 percent of each system's total appropriation. Each time a system presented evidence of achieving one its five objectives, $1 million was released.

The 1997 Legislature declined to continue performance funding, but laws remain in effect asking the two public systems to develop and report on performance and accountability measures. The University of Minnesota's *University 2000 Critical Measures and Performance Goals* cover a wide range of goals from improving the academic profile and diversity of entering students to graduation rates, from student and citizen satisfaction with the university to community impacts of university research and public service.

The most far-reaching performance plan is underway in South Carolina, where the Legislature will base its entire funding formula for higher education on performance by 1999. The plan lays out nine critical success factors, each of which has several specific indicators of progress that public colleges and universities must report when submitting budget requests. Performance funding in other states encompasses far less funding, typically 1 percent to 5 percent of total appropriations for higher education.

Create a single governing entity

In *A Course for the Future*, the Governor's Roundtable recommended creating a single governing entity to "determine priorities, set the state's public higher education budgets, and provide leadership and vision for all of higher education in Minnesota." It would not necessarily replace the current governing boards that run the systems.

The Roundtable criticized the process for electing the University of Minnesota Board of Regents and the board's failure to provide long-term strategic direction. Several bills to change the regents selection process were introduced in the 1997 Legislature, but none reached the full body for a vote.

The report urged the Governor to appoint a commission to spell out the authority of a new single governing entity. However, giving formal governing authority over the University of Minnesota to an entity other than the Board of Regents would require a change in the state's constitution.

Alternatively the Legislature and Governor could transfer authority over all public colleges and universities in Minnesota to the University of Minnesota Board of Regents. One problem with this option is that the Board of Regents would not be in a good position to set overall policy for the state on issues involving private colleges and universities, such as how much to allocate to financial aid versus public institutions. The board would face a conflict of interest.

Reorganize system

In recent years, major efforts have been directed at reorganizing Minnesota's public higher education system. Two goals have been to increase efficiency and to improve student services. The Governor's Roundtable questioned whether the missions of the University of Minnesota campuses fit the university's overall mission.

The University of Minnesota has a combined mission of teaching, research and public service. The only major research university in the state, it offers a broad range of doctoral and professional studies and has more selective admissions policies than state universities. Some question whether General College and the smaller, primarily undergraduate campuses divert the University of Minnesota's focus and resources away from its primary mission. Others argue that General College and the three smaller campuses meet an obligation to serve all parts of the state and all types of students.

Transfer or Discontinue General College. In early 1996, the University of Minnesota administration recommended discontinuing General College, a proposal the Board of Regents rejected. The Governor's Roundtable urged consideration of whether General College would better fit within Metropolitan State University.

General College diverges from the character of the University of Minnesota in the Twin Cities. Similar to a community college, General College is a two-year program that seeks to help students with weak academic backgrounds prepare to complete a four-year degree. At an otherwise selective institution, General College accounts for 67 percent of students in remedial courses at the University of Minnesota Twin Cities campus. Remedial instruction is an integral part of community colleges, some of which have agreements enabling successful students to transfer to the University of Minnesota.

General College is a substantial operation with high costs. The college enrolled 18 percent of all students entering the University of Minnesota Twin Cities in fall 1995, amounting to a full-year equivalent enrollment of 752, not including noncredit, remedial instruction. Its instructional costs were $8,472 per student in 1994, more than double the costs of instruction for first- and second-year undergraduate students in the university's College of Liberal Arts and higher than the expense of other state public colleges and universities.

General College has not been highly successful in helping students complete a University of Minnesota degree. Its graduation rates for the entering class of 1989 were 2 percent after four years and 16 percent after six years, though some improvement subsequently occurred in the four-year rate.

Realign Four-Year Colleges. The University of Minnesota campuses in Crookston and Morris are the smallest four-year campuses in the state, the only ones with enrollments under 2,000. Since they lack significant research activities and focus on undergraduate education, the Governor's Roundtable asked if these two institutions — as well as the University of Minnesota in Duluth — might fit the mission of the Minnesota State Colleges and Universities better than the mission of the University of Minnesota. More than 90 percent of University of Minnesota students in Duluth are undergraduates, although the campus operates a two-year medical school and has the largest research budget of any public institution in Minnesota outside the University of Minnesota in the Twin Cities.

To date, all realignments, consolidations and closings have involved two-year institutions. In contrast, many four-year institutions have expanded. The University of Minnesota in Crookston expanded in 1991 from a two-year technical college to an institution offering bachelor's degrees, while Metropolitan State University is in transition from a nontraditional institution serving only third- and fourth-year undergraduates to a more traditional four-year institution.

Metropolitan State University's expansion is a response to the shortage of public four-year universities in the rapidly growing Twin Cities area, where the issue of providing more access to a bachelor's degree has been discussed for some time. While the Twin Cities area will soon account for more than 50 percent of the state's high school graduates, its public four-year universities enroll only about 40 percent of the state's undergraduate students.

Consolidate for Efficiency. The Minnesota State Colleges and Universities and the University of Minnesota have taken major steps to reorganize campuses to reduce

operating costs and improve service to students. The University Board of Regents closed the two-year technical college campus in Waseca in 1992 and recently sold the University Hospital. Many small community colleges or technical colleges consolidated on a regional basis. After the establishment of the Minnesota State Colleges and Universities in 1995, the Board of Trustees consolidated nine pairs of community colleges and technical colleges located in the same communities. Consolidation eases admissions, credit transfers and payment of tuition and fees, and eliminates duplicate programs.

Higher instructional costs per student are associated with the smallest colleges and the largest — the University of Minnesota Twin Cities campus, with expensive graduate and professional programs. The three smallest four-year campuses — Southwest State University, University of Minnesota in Crookston and University of Minnesota in Morris — have the highest cost per student of all the four-year campuses, as do the three smallest community colleges.

A balanced assessment of Minnesota's public colleges requires consideration of performance and geographic access as well as cost. For example, the University of Minnesota in Morris, though small, has been recognized for academic excellence and has a four-year graduation rate about twice those of the Duluth and Twin Cities campuses. In addition, some small campuses are the only option for commuter students in their region.

Tenure issues

Tenure is a central feature of higher education in the United States. It has provided a virtual guarantee of lifetime employment for tenured faculty, with exceptions for cases of criminal or immoral conduct. Now, a growing number of public leaders and university officials across the country are discussing modifications or alternatives to traditional tenure systems.

The debate over tenure focuses on whether it promotes excellence or insulates faculty members from accountability for good teaching and research, and on how tenure hinders an institution's ability to restructure programs. One side argues that tenure gives faculty members freedom to pursue innovative and sometimes controversial inquiry without fear of retribution. The other side contends that tenure can weaken a university if it provides a refuge for unproductive individuals or limits the ability to restructure programs to meet changing customer demands. For example, because of university-wide tenure, some faculty members of the former Waseca campus, closed in 1992, still have positions at the university.

The intense conflict over tenure at the University of Minnesota has been tempered with a compromise agreement ratified by the Faculty Senate and Board of Regents in June 1997. The new tenure policy establishes a post-tenure review procedure that applies only to professors who have unsatisfactory ratings in annual reviews already conducted; they could be required to follow improvement plans or eventually be subject to dismissal if improvement is not evident. The new tenure policy also gives the university flexibility to cut programs, with tenured faculty remaining employed only if they accept reassignment. The policy also allows pay cuts in cases of financial emergency, but only if approved by faculty.

Provisions in the University of Minnesota agreement are not unique. Post-tenure review policies are already in place at the universities of Wisconsin, Iowa and Texas, among others. Seven Big 10 schools limit tenured professors' job rights in the event of program cuts to their department, college unit or campus.

Other avenues to increase flexibility have been discussed or acted upon by various universities or state legislatures. Among them are reducing the percentage of faculty that are tenured, linking tenure to departmental or university performance, and replacing tenure with five- to 10-year term contracts.

Faculty workloads

Because of escalating costs in higher education, policy-makers have become increasingly concerned about the productivity of faculty members. They have raised the issue of whether the amount of time that faculty members teach and work with students can be increased to serve more students without increasing the number of staff or the size of classes.

Legislatures in several states, including Minnesota, have asked for workload studies. The University of Minnesota estimated that its faculty worked an average of 57 hours a week in 1993, the same as the national average for research universities. Activities included instruction in the classroom, preparation for instruction, student advising, committee work, research and public service. Based on 1991 data, the average time spent in classroom instruction was 9.9 hours a week for the entire University of Minnesota, compared to 9.6 hours for the Twin Cities campus and 6.6 hours for research universities nationally.

However, measurement methods may not be entirely uniform across the country.

At the Minnesota State Colleges and Universities, collective bargaining agreements set classroom and student contact hours. State universities reported that their faculty worked an average of 55 hours a week in 1991, with 11 hours of classroom instruction. The national average at comparable institutions was 10.6 hours a week. Minnesota community colleges reported that their faculty worked an average of 45.6 hours a week, including 15.6 hours in the classroom. At Minnesota technical colleges, the average number of classroom hours was 24.7 — higher because of the many supervised laboratory and shop classes, as opposed to the lecture and discussion formats more common in other institutions.

The 1997 Minnesota Legislature passed a general requirement that each campus in the Minnesota State Colleges and Universities "demonstrate that it has taken actions to improve the productivity of faculty, administrators, and staff," but made no specific mention of teaching workloads and provided no incentives or sanctions. The Legislature passed similar language in 1995.

Legislatures in at least three states — Ohio, Florida and Texas — have taken action on faculty teaching loads. In 1993, the Ohio legislature required public universities to "recover" a 10 percent loss in time devoted to undergraduate education over the previous decade, a goal the universities later exceeded. A Florida statute mandates at least 12 instructional contact hours a week for full-time state university faculty members who are paid entirely from state funds. Texas requires its Higher Education Coordinating Board, in conjunction with public colleges and universities, to develop policies for and standardized reporting of faculty workloads. In some states, such as California and Hawaii, higher education systems have initiated standards or guidelines for teaching loads to forestall legislative action.

Some faculty workload standards apply to each faculty member. Others apply to academic departments or institutions, leaving the faculty to distribute teaching loads based on individual abilities, interests and research commitments.

Create a virtual university

The Governor's Roundtable recommended that the state invest in the use of new technologies for education, making Minnesota a national leader. A virtual university would enable Minnesota students to take courses from the best institutions in the state or around the world via electronic connections at their place of employment, home or local college.

The 1997 Minnesota Legislature established a Minnesota Virtual University as a partnership to be created by the University of Minnesota, the Minnesota State Colleges and Universities, private colleges and universities, and businesses. Planning and development funds of $1.2 million were appropriated to the two public systems. General goals were set forth in law, but no specific structure or vision. The new entity is charged with providing immediate access to lifelong learning for Minnesota citizens and businesses. It will develop one-stop shopping for higher education planning and services via the Internet, including course information, registration, financial aid, information on career planning and trianing, and access to libraries and electronic courses.

In addition, the Legislature provided resources to enhance other distance learning and electronic learning activities in the state — $10.5 million to the Minnesota State Colleges and Universities to develop their "electronic academy" of learning and student services, and $1 million to the University of Minnesota to participate with other research universities in a new upgraded Internet. The Learning Network of Minnesota got $4 million to continue operating and improving regional learning activities via interactive television and other means. The Legislature appropriated $12 million to create MNLINK, an electronic library information network that will link public, academic, government and school libraries.

The Internet and other telecommunications and computer technologies create new possibilities for higher education to improve access, elevate quality and get greater benefit from money already invested in facilities and faculty. Public officials and business leaders have touted the virtual university as the ultimate way for higher education to increase productivity and serve more people with finite resources. Governors of western states are launching one of the first interstate degree-granting virtual universities, the Western Governors University, in 1997. A virtual university would go beyond the limited interactive television systems Minnesota has in place and beyond the large systems of distance education operating in Maine and British Columbia.

The concept of a virtual university is still being defined. The vision of the Minnesota Virtual University is to provide convenient access to learning, instructors, library materials and all student services without barriers of

distance, time or bureaucratic procedures. It will establish many points of entry for students, including their homes or places of employment, offering instruction at more times and locations and from more sources, using the Internet and other media. It will grant degrees through its member institutions, not as a separate university.

Tax and savings incentives

Most of the policy ideas discussed in *Degrees of Excellence* have focused on improving productivity and results, but financial access to education is still an issue. Public concern over escalating tuition rates is leading to new state and federal proposals to make college more affordable through the tax system. However, tax credits and deductions may encourage colleges and universities to raise tuition.

The 1997 Minnesota Legislature enacted the EdVest savings plan proposed by Governor Arne H. Carlson to help families pay for their children's education. Under EdVest, a family will be able to establish a college savings account administered and invested by the state. Earnings will be tax-deferred until the account is cashed out, but only if used for a college education. Accounts for students with family incomes under $80,000 will be eligible for state matching grants up to $300. The Legislature approved $1.5 million per year for matching grants, and encouraged businesses and foundations to contribute additional matching funds. EdVest accounts can be used at any qualified public or private college inside or outside the state. The success of EdVest will depend on whether it can offer convenience and rates of return comparable to tax-deferred savings plans available through the private sector.

The 1997 Legislature also established a new Gopher State Bonds program through which Minnesotans can purchase tax-exempt zero coupon state bonds in small denominations to save for college, though there is no requirement that proceeds from the bonds be used for college. Bonds purchased up to a total of $25,000 will not be considered part of family assets if a student applies for a state financial aid grant.

There is concern that the state bonds might be less attractive than U.S. Savings bonds, which offer a federal tax exemption and possibly higher interest rates. Another concern is that savings plans might not result in families saving significantly more, but only shifting savings from their current taxable savings accounts.

As part of a tax cut package agreed upon between President Bill Clinton and the Congress, historic legislation is likely to be passed that will provide more than $30 billion in tax deductions and credits over the next five years to help pay for college. Details are being negotiated.

Large federal tax credits and deductions proposed up to $10,000 could provide significant tuition relief to families at many income levels. States with low tuition levels are expected to benefit the most. The tax credits and deductions could become a massive new federal entitlement, prompting some colleges and universities to raise prices, skimming tax savings from families. Many state legislatures could hold back appropriations while their institutions raise tuition. The U.S. Secretary of Education recently warned that tax breaks for students should not be seen as a green light to raise tuition.

The federal proposals could also affect how attractive Minnesota's new savings plans are to families, requiring adjustments in state programs.

Achieving excellence

In 1996 Governor Arne Carlson called for cooperation in forming better links between Minnesota's higher education system and the needs of its economy, spawning the Governor's Roundtable and *Degrees of Excellence*.

The Minnesota Legislature, the University of Minnesota and the Minnesota State Colleges and Universities have moved forward with significant steps to streamline governance and campus administration, measure and reward performance, simplify service to students and invest in state-of-the art technology.

The challenges to higher education will continue as long as costs continue to rise faster than inflation, technological and management innovation lag, and public concern over escalating tuition persists. Electronic universities will heighten competition. These forces are likely to compel higher education to continue to grapple with the issues of faculty productivity, the potential of learning technology and system organization and governance.

Higher education is a key foundation of Minnesota's thriving economy and high quality of life. Ultimately, leaders must determine how to stimulate and reward excellence to keep Minnesota's higher education system competitive on an international scale.